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NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

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in its capacity as elected Office

Date of mailing (day/month/year)

05 February 1999 (05.02.99)

International application No.

PCT/US98/11721

Applicant's or agent's file reference

PET 43.2

International filing date (day/month/year)

05 June 1998 (05.06.98)

Priority date (day/month/year)

06 June 1997 (06.06.97)

Applicant

CHAPMAN, Graham, M. et al

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

11 January 1999 (11.01.99)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☐ was☒ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
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Authorized officer

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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification⁶ : B32B 27/32, C09J 7/02	A1	(11) International Publication Number: WO 98/55297 (43) International Publication Date: 10 December 1998 (10.12.98)
(21) International Application Number: PCT/US98/11721 (22) International Filing Date: 5 June 1998 (05.06.98) (30) Priority Data: 60/048,791 6 June 1997 (06.06.97) US (63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application US 60/048,791 (CON) Filed on 6 June 1997 (06.06.97) (71) Applicant (for all designated States except US): PETOSKEY PLASTICS, INC [US/US]; 4226 U.S. 31 South, Petoskey, MI 49770 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): CHAPMAN, Graham, M. [GB/CA]; R.R. #4, 519 Queenston Road, Niagara-on-the Lake, Ontario L0S 1J0 (CA). LOWRY, Adam, K. [US/US]; 1731 Pine Street, San Francisco, CA 94109 (US). KIESWETTER, Paul, C. [US/US]; 530 W. Lake Street, Petoskey, MI 49770 (US). CRAIG, James, K. [US/US]; 7090 Hughston, Harbor Springs, MI 49740 (US).		(74) Agents: WATERS, John, A. et al.; Waters & Morse, P.C., Suite 410, 125 Ottawa N.W., Grand Rapids, MI 49503 (US). (81) Designated States: CA, MX, <u>US</u> , Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: PLASTIC MASKING COVER		
(57) Abstract <p>A plastic masking film comprising at least two layers, an outer layer (12) having sufficient surface energy to ensure the adherence of paint, and an inner layer (14) providing cling to a surface. The outer layer (12) comprises a corona-treated thermoplastic material having a surface energy greater than 50 dynes/cm at the time of manufacture and which remains at a minimum of 35 dynes/cm in use. The thermoplastic material of the outer layer (12) comprises one or a combination of members selected from the group consisting of ethylene/vinyl acetate copolymer, polyvinyl alcohol, polyvinyl acetate, ethylene/vinyl alcohol copolymer, and high density polyethylene. Desirably, the film also includes a central core (16) formed of one or a combination of polyolefins, preferably low-density polyethylene or linear low density polyethylene, compatible with the inner and outer layers. A mineral or other particulate filler can be incorporated in the outer layer (12) to improve the adhesion of paint or coating to the plastic surface.</p> <div data-bbox="454 1134 1445 1491"> </div>		

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PLASTIC MASKING COVER

CROSS REFERENCE TO RELATED APPLICATION

This is a continuation of co-pending provisional U.S. patent application, serial no. 60/048,791, filed June 6, 1997.

BACKGROUND OF THE INVENTION

The invention relates to protective masking material used in painting, re-painting, touching-up or detailing metal and other material surfaces in the automotive, aircraft, marine and other industries. The traditional way to protect a surface from stray and unnecessary paint or other coating materials has been to cover the surface required to be protected with a paper (including coated paper), generally dispensed from a roll. At the edges this paper is taped to the surface to be protected with an adhesive tape.

Paper has several disadvantages. First, it has to be coated to make it at least partially impervious to the typical materials used in coating and painting. Second, it is stiff and difficult to maneuver around corners and into position. Further, it is susceptible to humidity and water and thus has problems during wet sanding and accidental exposure to water spraying in repair and body shops. Finally, because paper does not cling to metal or other surfaces, it is difficult to apply. Two hands are necessary to apply it, so one hand is not free for taping.

Simple commodity plastic covering, e.g. polyethylene film (PE), overcomes many of the disadvantages of paper. It is not susceptible to water and is sufficiently flexible to be maneuverable, but it does not have sufficient cling and suffers from a major problem because adhesion of paint is poor. Paint that is sprayed on to the polyethylene

surface does not adhere and flakes off after drying, causing problems in the area where the painting is taking place, such as an automotive body shop.

The problem with adhesion to polyethylene is due to the low surface energy (or surface tension) of unmodified and untreated polyethylenes; typically the surface energy of PE is 29-31 dynes/cm. In order for a coating to bond initially to a surface such as PE the substrate needs to have a surface energy at least 10 dynes/cm. greater than the surface tension of the liquid. The surface energy of PE is too low for most solvents.

Several methods have been used to overcome the problem of paint flaking. One is to use special plastic materials with higher paint adhesion characteristics. Unfortunately, only a limited number of plastics are satisfactory, and most are quite expensive. Another method is to add a mineral or filler additive to the plastic to roughen the surface. The effect of additives is limited, however, and they can have an adverse effect on film strength in high concentrations. Some additives, such as slip additives, also can migrate to the film surface over time.

In addition to the foregoing, there are several physical and chemical treatments that can be used to increase the surface energy of a film. For improving the adhesion of printing inks, corona discharge is sometimes used. This involves the formation of a cold plasma by electrical discharge in atmospheric conditions. Another technique uses radio frequency or microwave energy under vacuum. An alternative to corona discharge is flame plasma treatment in which plasma is produced by burning a hydrocarbon fuel, which produces ions, free electrons, carbon atoms and oxygenated carbon and hydrocarbon

molecules. Ozone treatment, either on its own or in combination with corona treatment, also is used to achieve surface oxidation and an increase in surface energy.

An object of the present invention is to provide an improved masking film that has good paint adhesion characteristics, clings well to the product being painted, and has desirable strength and cost advantages.

SUMMARY OF THE INVENTION

A masking film in accordance with the present invention comprises at least two and preferably three co-extruded layers, including an inner layer that has enhanced "cling" properties; an outer layer which has desirable paint adhesion characteristics and resists paint peeling; and desirably a middle layer which contributes appropriate strength and tear characteristics to the product. The film also resists ultraviolet degradation.

The inner layer of the present invention is a higher density polyethylene having good cling properties. High density polyethylene (HDPE) at a thickness of about 0.2 to 1.0 mils (about 5 to 25 microns) in a three layer film provides cling and stiffness to the product and resists paint penetration to the covered surface. HDPE also has a higher melting point (which is desirable when paint is cured by baking) and is less abrasive than other polyethylenes on a car surface.

The outer layer is formed from a treated polymer having a high surface energy. Polymers that have been found to work well include polyvinyl alcohol; polyvinyl acetate; ethylene vinyl alcohol copolymers (of ethylene co-monomer ratios of between 27 and 48 percent); and ethylene vinyl acetate or "EVA" (with a vinyl content of between 7 and 28 percent). EVA is especially preferred. Polyacrylates and polyesters also work but

are quite expensive. Even the less expensive materials are more expensive than conventional low density polyethylene. Accordingly, it is preferred that they be used as a thin layer of about 0.2 to 0.3 mils (about 3 to 25 microns) in a three layer co-extruded structure. This is sufficient to achieve the required surface effect but is cost effective. The surface energy of the EVA or other selected polymer is enhanced by applying a surface treatment to the polymer. Specifically, corona discharge on the surface has been used to provide a surface energy of at least 50 dynes/cm. at the time of treatment. Corona-treated polyolefins also will work as an outside layer but they are not as satisfactory as EVA and the other polymers. HDPE is preferred over lower density polyethylenes. A difference in surface energy alone does not appear to explain the superiority of the other polymers.

The film can be formed with just the outer and inner layers. However, the outer and inner surface layers desirably are co-extruded with a central core layer of a more cost effective material that provides the desired combination of tensile strength, elasticity, and tear strength. The use of an inexpensive core layer for strength makes it possible to make the more expensive outer and inner layers thinner. The core layer is a thermoplastic polymer compatible with the outer and inner layers, such as polyethylene or polypropylene, preferably low density polyethylene or a combination of low density polyethylene and linear low density polyethylene. In order to provide a product that can be dispensed satisfactorily in roll form on a typical masking paper dispenser, a combination of good tensile strength and machine direction tear is necessarily combined with a relatively weak cross-directional tear. This can be achieved by using the selected polymers in combination with the processing conditions necessary to provide these characteristics. It has been found

that by using at least 70 percent of a fractional melt index low density polyethylene in the center layer, good strength and tear properties can be produced.

While the individual characteristics of the surface layers is a major factor in the cling and paint adhesion characteristics of the product, the process of co-extrusion and the combination of materials extruded also influence the characteristics of the final product. For instance, co-extruding a soft material on a hard material seems to enhance static energy and cling properties. The use of separate extruders for the separate materials also appears to enhance the cling properties of the product.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a roll or "log" of masking film.

FIG. 2 is a cross-sectional view of the masking film.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

Referring to the drawings, plastic masking film 10 comprises an outer layer 12, an inner layer 14 and desirably a core or middle layer 16. The inner layer is designed to be applied to the surface 18 of an automobile body or other product being painted. Film 10 is formed in a conventional manner by co-extrusion.

Inner layer 14 comprises a higher density polyethylene having good cling properties. High density polyethylene (HDPE) having a thickness of about 0.2 to 1.0 mils (about 5 to 25 microns) with a three layer film is satisfactory to provide the necessary surface characteristics and stiffness to the product, while maintaining cost effectiveness by the use of a thin layer.

Outer layer 12 provides paint adherence to hold the paint on coatings during spray, curing, and drying without permitting the paint to flake. The outer layer preferably is EVA having a thickness of about 0.2 to 0.3 mils (about 5 - 8 microns) in a three layer film. The EVA is treated with a corona discharge treatment in order to enhance the surface energy or surface tension of the outer layer. The outer layer as constructed has a surface energy as high as 50 dynes/cm or higher at the time of manufacture, and the surface energy remains at a minimum of 35 dynes per centimeter until use.

The core layer of the structure comprises polyethylene or other polyolefin to give strength to the film.

A desired core is a combination of low density polyethylene (LDPE) and linear low density polyethylene (LLDPE), including some post-consumer recycle material, having a thickness of about 0.2 to 2.0 mils (about 5 to 50 microns). The LDPE enhances the tearability of the film from conventional masking paper dispensers. The use of a filler material, such as calcium carbonate, also enhances the tearability of the film.

Overall, the plastic film is extruded to a total thickness of about 0.5 to 3.0 mils, (about 12 to 75 microns) with a thickness of about 1.5 mils (about 50 microns) being desirable.

The co-extruded film of the present invention provides a combination of qualities necessary for good masking material. The film is impervious to the constituents of paints and coatings. It has good handleability, which is provided by a combination of polymers which give it the necessary strength, elasticity and tear characteristics. The outer layer resists paint flaking while the inner layer enhances the cling of the film to the product

being painted. Thus, the film can simply be laid against the side of the product and it will remain in place for trimming and use. The film is thin, easy to handle, and can easily be applied and removed.

Furthermore, the film of the present invention has sufficient UV resistance that the film resists adverse effects such as "bloom" on the metallic surface in contact with the film when exposed to ultraviolet radiation.

Another feature of the present invention is the incorporation of a color or printing on at least one side of the material in order to indicate which side of the material is the sticky side and which side is the paint adhesion side. This minimizes the risk of misapplication of the film with the wrong side against the surface to be painted.

Another feature of the present invention is that the film is packaged in logs or rolls that are compatible with the form in which masking paper is presently dispensed. Masking paper used in auto body shops typically is packaged in long logs or rolls and mounted on roll dispensers. The paper is torn off the rolls in sheets of any desired length. Many plastic masking materials presently on the market are sold in sheet form of separate sheets. The present invention permits the plastic masking material to mount on existing paper dispensers and be dispensed in the same manner as the masking paper that body shop operators are already familiar with.

The masking film of the present invention desirably is formed in rolls that are 18 inches wide and approximately 400 feet in length. The film can be folded over once or more on the rolls as shown in FIG. 1 to form folded sheets in order to provide a wider sheet of material. Preferably, the outer layer is on the extensor surface

of the folded material. Alternatively, the rolls can be 36 inches wide (or other widths) and the film can be folded over more than one time to form multiple folded layers. For a full body cover, the unfolded film width can be as much as eight to twelve feet or any width desired. A more narrow width is used for film having a "critical edge", which is an edge that is designed to be adjacent a surface being painted. The cling characteristics of the sheeting are such that the film clings to the surface of the painted product but does not adhere to itself in a roll with such tenacity that the film cannot be separated. The material, particularly the central core, is fabricated so that the film has good strength in one direction but tears more easily in a transverse direction so the film can more easily be torn off the roll.

It should be understood that the foregoing is merely illustrative of the preferred practice of the present invention and that various modifications in the details of the embodiments disclosed herein may be made without departing from the spirit and scope of the present invention.

CLAIMS

1. A plastic masking film comprising at least two layers, an outer layer having sufficient surface energy to ensure the adherence of paint and an inner layer providing cling to a surface.

2. A film according to claim 1 in which the outer layer comprises a corona-treated thermoplastic material having a surface with a surface energy greater than 50 dynes/cm. at the time of manufacture and which remains at a minimum of 35 dynes/cm. until use.

3. A film according to claim 2 in which the thermoplastic material of the outer layer comprises one or a combination of members selected from the group consisting of ethylene vinyl acetate, polyvinyl alcohol, polyvinyl acetate, ethylene vinyl alcohol, and high density polyethylene.

4. A film according to claim 1 in which the inner layer comprises high density polyethylene.

5. A film according to claim 1 and further comprising a central core layer formed of one or a combination of polyolefins compatible with the inner and outer layers.

6. A film according to claim 2 in which a mineral or other particulate filler is incorporated in the outer layer to improve the adhesion of paint or coatings to the plastic surface.

5 7. A film according to claim 1 in which at least one of the layers is colored or marked to visually distinguish between the inner and outer layers.

8. A film according to claim 5 wherein the core layer comprises one or a combination of members selected from the group consisting of low density polyethylene and linear low density polyethylene.

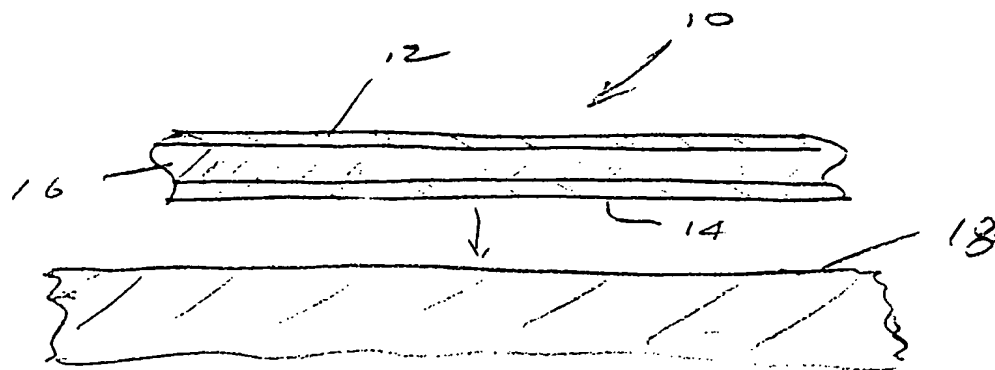
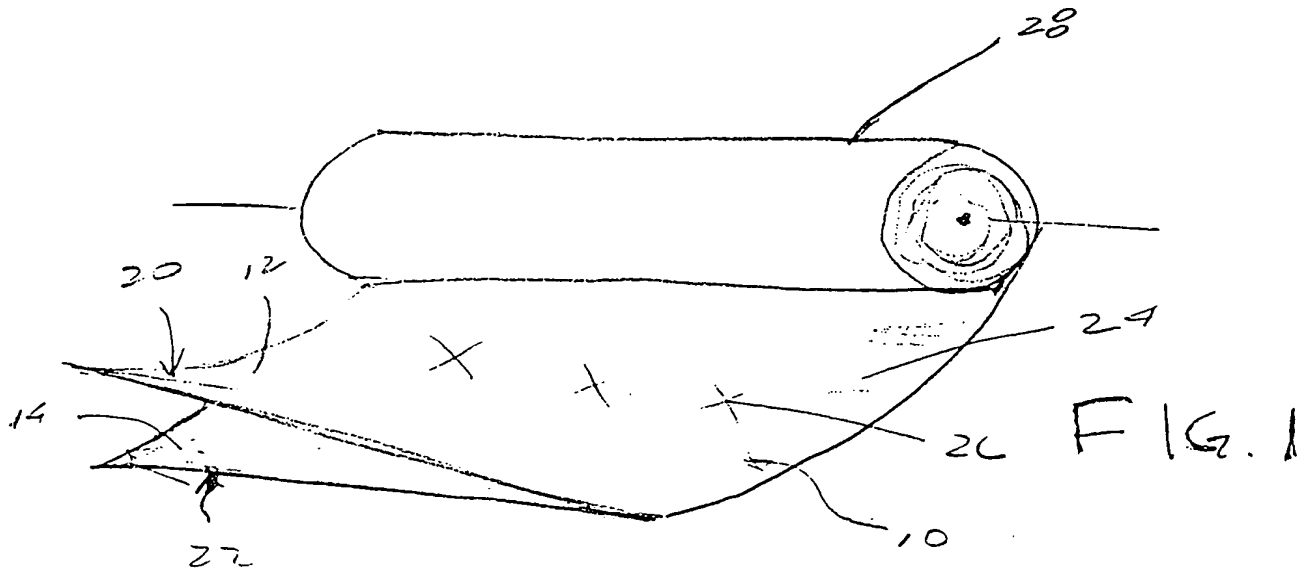
10

9. A plastic masking film comprising at least three co-extruded thermoplastic layers, an inner layer adapted to contact a product being painted, an outer layer on an opposite exterior surface of the film, and a central core layer between the inner and outer layers, the inner layer comprising high density polyethylene in a thickness of about 0.2 to 1.0 mils (about 5 to 25 microns), the central core layer comprising one or a combination of members formed from the group consisting of low density polyethylene and linear low density polyethylene, the thickness of the inner layer being about 0.2 to 2.0 mils (about 5 to 50 microns), the outer layer comprising a corona-treated material selected from the group consisting of one or a combination of members selected from the group consisting of ethylene vinyl acetate, polyvinyl alcohol, polyvinyl acetate, ethylene vinyl alcohol, and high

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density polyethylene the outer layer being about 0.2 to 0.3 (about 5 to 8 microns) mils thick.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/11721**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : B32B 27/32; CO9J 7/02

US CL : 428/213, 354, 355 R, 516

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 428/213, 354, 355 R, 516

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
none

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS: paint? (p) mask?, adhesive or cling?, corona or plasma?, polyethylene? (multilayer? or multi layer? or layers).

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
XP	US 5,741,389 A (YOSHINO) 21 April 1998, see the entire document, especially column 6, lines 7-60 and column 8, lines 1-20.	1-4
A	US 4,676,376 A (KEISWETTER) 30 June 1987, see the entire document.	1-9
A	US 5,113,921 A (POOL) 19 May 1992, see the entire document.	1-9
X	US 5,194,324 A (POIRIER) 16 March 1993, see column 1, lines 40+ and column 4, lines 1-43.	1-6



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents.	* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*Z* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

20 JULY 1998

Date of mailing of the international search report

04 SEP 1998

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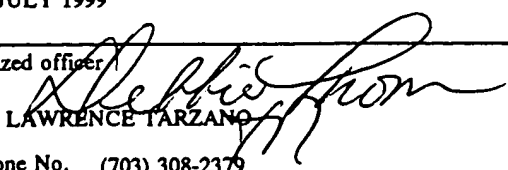
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PET 43.2	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US98/11721	International filing date (<i>day/month/year</i>) 05 JUNE 1998	Priority date (<i>day/month/year</i>) 06 JUNE 1997
International Patent Classification (IPC) or national classification and IPC IPC(6): B32B 27/32; CO9J 7/02 and US Cl.: 428/213, 354, 355 R, 516		
Applicant CHAPMAN, GRAHAM M.		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>3</u> sheets. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>0</u> sheets.
3.	This report contains indications relating to the following items: <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step or industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 11 JANUARY 1999	Date of completion of this report 16 JULY 1999
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  D. LAWRENCE TARZAGO
Facsimile No. (703) 305-3230	Telephone No. (703) 308-2379

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/11721

I. Basis of the report

1. This report has been drawn on the basis of *(Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments):*

- ☒ the international application as originally filed.
- ☒ the description, pages 1-8 , as originally filed.
pages NONE , filed with the demand.
pages NONE , filed with the letter of _____.
pages _____ , filed with the letter of _____.
- ☒ the claims, Nos. 1-9 , as originally filed.
Nos. NONE , as amended under Article 19.
Nos. NONE , filed with the demand.
Nos. NONE , filed with the letter of _____.
Nos. _____ , filed with the letter of _____.
- ☒ the drawings, sheets/fig 1 , as originally filed.
sheets/fig NONE , filed with the demand.
sheets/fig NONE , filed with the letter of _____.
sheets/fig _____ , filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE .
- ☒ the claims, Nos. NONE .
- ☒ the drawings, sheets/fig NONE .

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/11721

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. STATEMENT**

Novelty (N)	Claims <u>7-9</u>	YES
	Claims <u>1-6</u>	NO
Inventive Step (IS)	Claims <u>8, 9</u>	YES
	Claims <u>1-7</u>	NO
Industrial Applicability (IA)	Claims <u>1-9</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-6 lack novelty under PCT Article 33(2) as being anticipated by Poirier (US 5,194,324).

Poirier teaches a multi layer adhesive article having a repositionable adhesive (column 1, lines 67+). The first surface layer (A) comprises polyethylene, the core layer B comprises polypropylene, and the second outer surface layer comprises polypropylene. Both sides of the film are corona treated so that they have surface energies of about 38 dynes/cm (column 4, lines 21+).

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Poirier (US 5,194,324).

Poirier teaches a film having the general properties claimed by the applicant. However, the prior art is silent regarding making layers of the film different colors. Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have colored the layers of the films taught by Poirier, since this is merely related to the esthetics of the film.

Claims 8 and 9 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest the use of a core layer of linear low density polyethylene or low density polyethylene.

Claims 1-9 have industrial applicability as defined by PCT Article 33(4). The films of the instant invention would be useful as a masking film in painting applications.

NEW CITATIONS
NONE

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 23 AUG 1999

WIPO PCT

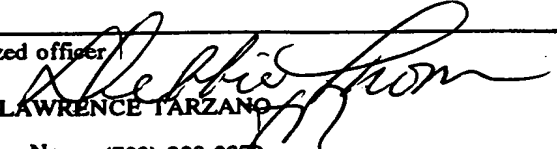
Applicant's or agent's file reference PET 43.2	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US98/11721	International filing date (day/month/year) 05 JUNE 1998	Priority date (day/month/year) 06 JUNE 1997
International Patent Classification (IPC) or national classification and IPC IPC(6): B32B 27/32; CO9J 7/02 and US Cl.: 428/213, 354, 355 R, 516		
Applicant CHAPMAN, GRAHAM M. PETOSKEY PLASTICS, INC.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 3 sheets.
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 0 sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 11 JANUARY 1999	Date of completion of this report 16 JULY 1999
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/11721

I. Basis of the report

1. This report has been drawn on the basis of (*Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments*):

☒ the international application as originally filed.

☒ the description, pages 1-8, as originally filed.

pages NONE, filed with the demand.

pages NONE, filed with the letter of _____.

pages _____, filed with the letter of _____.

☒ the claims, Nos. 1-9, as originally filed.

Nos. NONE, as amended under Article 19.

Nos. NONE, filed with the demand.

Nos. NONE, filed with the letter of _____.

Nos. _____, filed with the letter of _____.

☒ the drawings, sheets/fig 1, as originally filed.

sheets/fig NONE, filed with the demand.

sheets/fig NONE, filed with the letter of _____.

sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

☒ the description, pages NONE.

☒ the claims, Nos. NONE.

☒ the drawings, sheets/fig NONE.

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. STATEMENT**

Novelty (N)	Claims <u>7-9</u>	YES
	Claims <u>1-6</u>	NO
Inventive Step (IS)	Claims <u>8, 9</u>	YES
	Claims <u>1-7</u>	NO
Industrial Applicability (IA)	Claims <u>1-9</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-6 lack novelty under PCT Article 33(2) as being anticipated by Poirier (US 5,194,324).

Poirier teaches a multi layer adhesive article having a repositionable adhesive (column 1, lines 67+). The first surface layer (A) comprises polyethylene, the core layer B comprises polypropylene, and the second outer surface layer comprises polypropylene. Both sides of the film are corona treated so that they have surface energies of about 38 dynes/cm (column 4, lines 21+).

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Poirier (US 5,194,324).

Poirier teaches a film having the general properties claimed by the applicant. However, the prior art is silent regarding making layers of the film different colors. Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have colored the layers of the films taught by Poirier, since this is merely related to the esthetics of the film.

Claims 8 and 9 meet the criteria set out in PCT Article 33(2)-(4), because the prior art does not teach or fairly suggest the use of a core layer of linear low density polyethylene or low density polyethylene.

Claims 1-9 have industrial applicability as defined by PCT Article 33(4). The films of the instant invention would be useful as a masking film in panting applications.

----- NEW CITATIONS -----
NONE